CET CSR Meeting

Thursday in WH2SE Comitium on 4/1 from 1-2:30pm

Goals

- Define what it means to be a computer science research group.
- Learn how this fits into the work plans for the year.
- Define target areas of interest and begin to establish a scope and direction for computer science research work.
- Better understand the process of getting involved and moving forward.

Agenda

- Make a short, prioritized list of areas and projects that we want to be involved. The items on the list must be aligned with Fermilab's strategic goals.
- What groups that we might be able to work with?
- What is the strategy and the plan we will use to move forward?
- What is the process of getting involved?
- Make sure that the things listed in the goals are at least vaguely understood by all.

Big Issue

- Must provide 2 FTEs for a few months to work in the business services area.
- Help with integrating SAP into the process: accounting practices, resource planning, payroll, asset tracking.
- Work with the SAP ABAP language
  - From Wikipedia: ABAP is one of the many application-specific fourth-generation languages (4GLs) first developed in the 1980s. It was originally the report language for SAP R/2, a platform that enabled large corporations to build mainframe business applications for materials management and financial and management accounting.
- Any Volunteers?

```
IF NOT lf_bapi_error = true.
  IF ( NOT istourhd-doc_type IS INITIAL ) AND
     ( NOT istourhd-doc_id IS INITIAL ).

    CALL FUNCTION 'ENQUEUE_/DSD/E_HH_RAREF'
         EXPORTING
              obj_typ        = istourhd-doc_type
              obj_id         = istourhd-doc_id
         EXCEPTIONS
              foreign_lock   = 1
              system_failure = 2
              OTHERS         = 3.
    IF sy-subrc <> 0.
*     terminate processing...
      lf_bapi_error = true.
*     ...and add message to return table
      PERFORM set_msg_to_bapiret2
           USING    sy-msgid gc_abort sy-msgno
                    sy-msgv1 sy-msgv2 sy-msgv3 sy-msgv4
                    gc_istourhd gc_enqueue_refdoc space
           CHANGING lt_return.
    ENDIF.
  ENDIF.
ENDIF.    " bapi error
```

How does research fit in?

- From job description
  - Participates in research activity discussions and reviews.
  - Authors technical notes and peer-review papers.
  - Identifies IT challenges for research activities related to the Laboratory's mission and obtain feedback.
  - Develops specifications for IT research, evaluation and analysis and implement them.
  - Communicates and coordinates with other technical personnel and external researchers in the field.
  - Involved in technical negotiations with peer researchers and collaborators in the field.
  - May participate in the preparation of external grant proposals and the management of any externally funded programs.

Where do our strengths lie?

I think our strength has been building libraries that are used directly by physicists in our community. We need to play on that strength, and to think of the applications that ride on top of the tools. We also need a direct connection or link with the mission of our department and the work we will be doing.

Do you agree with this?

What are we talking about here?

- Grants
  - DOE
    - scidac, ASRC, SBIR, etc.
    - what about field work proposals?
    - we can get money directly for this work
  - NSF
    - cyberinfrastructure, etc.
    - usually money does not come directly to us from these programs
- Collaborative work
  - other labs
  - universities
  - research institutes
  - industry
- primary or secondary participants
- interacting with program managers
- monitoring calls for grants
- publications? what can we afford to do here?

History or this sort of work

- Accelerator modeling (scidac)
- RTES (nsf)
- LQCD (scidac)
- other - Pegasus workflow and glide-ins (Ruth)
- other - OSG

Panagiotis, Jim A., and Ruth have experience in this sort of work.
Don and Amber have experience with the DOE program office

Things already being discussed

- Workflow and reliable computing - UDSC, Ilkay Altintas; ISIS, Abhishek Dubey, LQCD
- Program transformations - Semantic Designs; ROSE
- DDS additional components - SBIR phase II with Tech-X
- Accelerator Modeling - Working with accelerator modeling group (as workers)

Ruth has told us that software engineering will be
a big topic this year: testing, maintaining, construction, etc.

What should we pursue?

- what is the research area?
  - multicore: design for performance, concurrency programming, compilers, program transformations
  - workflow: frameworks, realtime issues, reliability, progress and product tracking, distributed processing
- what are the groups we should target talking to or visiting?
  - Argonne, Renci, UIUC, ISIS
  - Kepler, LQCD, Tau
- what Fermilab projects do we connect with?
  - accelerator modeling,
  - streaming DAQ to offline in mu2e,
  - astrophysics simulations,
  - Geant4, CMS
- what external projects do we connect with?
  - exascale computing

Questions

- how is the work we are interested in useful for our community?
- what would be good work for this year? next?
- where do we want to be in five years?
- how much time can we commit to this effort?
- how do we proceed?
- how do we coordinate this effort?

Smaller issues

- Dr Sun from IIT has asked if we can participate in their CS advisory board
- We do have an ongoing phase I SBIR from JDEM now
- The LQCD grant will be expiring at the end of the year
- We should be participating in college career days and internship days